

B.G. Agee 2-2-2-7-6-2-9-4-4-2-4-3-4-3

IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Declaration and Power of Attorney

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled **Highly Bandwidth Efficient Communications** the specification of which was filed on December 18, 1997, as application Serial No. 08/993721, which was a continuation of application Serial No. 08/804619, filed February 24, 1997.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by an amendment, if any, specifically referred to in this oath or declaration.

I acknowledge the duty to disclose all information known to me which is material to patentability as defined in Title 37, Code of Federal Regulations, 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

None

I hereby claim the benefit under Title 35, United States Code, 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, 112, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

Serial No. 08/804619, filed February 24, 1997

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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B.G. Agee 2-2-2-7-6-2-9-4-4-2-4-3-4-3

I hereby appoint the following attorney(s) with full power of substitution and revocation, to prosecute said application, to make alterations and amendments therein, to receive the patent, and to transact all business in the Patent and Trademark Office connected therewith:

Samuel H. Dworetsky	(Reg. No. 27873)
Thomas A. Restaino	(Reg. No. 33444)
Robert B. Levy	(Reg. No. 28234)
Michele Conover	(Reg. No. 34962)
Jose R. de la Rosa	(Reg. No. 34810)
Karin L. Williams	(Reg. No. 36721)
Barry H. Freedman	(Reg. No. 26166)
Alfred G. Steinmetz	(Reg. No. 22971)
Stephen M. Gurey	(Reg. No. 27336)
Jeffrey M. Weinick	(Reg. No. 36304)

Please address all correspondence to Mr. S. H. Dworetsky, AT&T Corp., P. O. Box 4110, Middletown, New Jersey 07748. Telephone calls should be made to Samuel H. Dworetsky by dialing 973-360-8120.

Full name of 1st joint inventor: Brian G. Agee

Inventor's signature _____ Date _____

Residence: San Jose, Santa Clara County, California

Citizenship: United States of America

Post Office Address: 1596 Wawona Drive
San Jose, California 95125

Full name of 2nd joint inventor: Matthew Bromberg

Inventor's signature _____ Date _____

Residence: San Jose, Santa Clara County, California

Citizenship: United States of America

Post Office Address: 375 Brookmere
San Jose, California 95123

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B.G. Agee 2-2-2-7-6-2-9-4-4-2-4-3-4-3

Full name of 3rd joint inventor: Derek Gerlach

Inventor's signature

Date

Residence: Mountain View, Santa Clara County, California

Citizenship: United States of America

Post Office Address: 575 S. Rengstorff Ave. #82
Mountain View, California 94040

Full name of 4th joint-inventor: David Gibbons

Inventor's signature *D. B. Gibbons* Date 4/20/98

Residence: Redmond, King County, Washington

Citizenship: United States of America

Post Office Address: 23006 NE 18th Ct.
Redmond, Washington 98053

Full name of 5th joint inventor: James Timothy Golden

Inventor's signature *James T. Golden* Date 5/12/98

Residence: Carnation, King County, Washington

Citizenship: United States of America

Post Office Address: 9333 318th Place NE
Carnation, Washington 98014

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B.G. Agee 2-2-2-7-6-2-9-4-4-2-4-3-4-3

Full name of 6th joint inventor: Minnie Ho

Inventor's signature _____ Date, _____

Residence: Palo Alto; Santa Clara County, California

Citizenship: United States of America

Post Office Address: 3427 Thomas Drive
Palo Alto, California 94043

Full name of 7th joint inventor: Elliott Hoolc

Inventor's signature Eurois Thole Date 4/29/98

Residence: Redmond, King County, Washington

Citizenship: United States of America

Post Office Address: 22207 NE 28th Place
Redmond, Washington 98053

Full name of 8th joint inventor: Mary Jesse

Inventor's signature: Mary Rose Date: 5/7/98

Residence: Issaquah, King County, Washington

Citizenship: United States of America

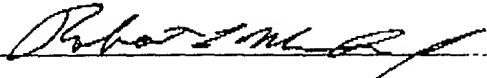
Post Office Address: 19301 S.E. 16th Street
Issaquah, Washington 98029

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B.G. Agee 2-2-2-7-6-2-9-4-4-2-4-3-4-3

Full name of 9th joint inventor: Robert Lee Maxwell

Inventor's signature  Date 5/6/98

Residence: Duvall, King County, Washington

Citizenship: United States of America

Post Office Address: 28319 NE 147 Ct.
Duvall, Washington 98019

Full name of 10th joint inventor: Robert G. Mechaley Jr.

Inventor's signature _____ Date _____

Residence: Lexington, Middlesex County, Massachusetts

Citizenship: United States of America

Post Office Address: 64 Potter Pond
Lexington, Massachusetts 02173

Full name of 11th joint inventor: Robert Ray Naish

Inventor's signature _____ Date _____

Residence: San Jose, CA, Santa Clara County, Washington

Citizenship: United States of America

Post Office Address: 2351 Newhall Street
San Jose, CA, Washington 95128

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Full name of 9th joint inventor: Robert Lee Maxwell

Inventor's signature _____ Date _____

Residence: Duvall, King County, Washington

Citizenship: United States of America

Post Office Address: 28319 NE 147 Ct.
Duvall, Washington 98019

Full name of 10th joint inventor: Robert G. Mechaley Jr.

Inventor's signature [Signature] Date 8/17/98

Residence: Lexington, Middlesex County, Massachusetts

Citizenship: United States of America

Post Office Address: 64 Potter Pond
Lexington, Massachusetts 02173

Full name of 11th joint inventor: Robert Ray Naish

Inventor's signature _____ Date _____

Residence: San Jose, CA, Santa Clara County, Washington

Citizenship: United States of America

Post Office Address: 2351 Newhall Street
San Jose, CA, Washington 95128

Figure 1 consists of 12 sub-graphs labeled (a) through (l), each showing the growth of *E. coli* O157:H7 in ground beef under different conditions. The y-axis for all graphs is \log_{10} CFU/g, ranging from 0 to 10. The x-axis is time in hours, ranging from 0 to 24. The graphs show various growth curves, including control, heat treatment, and different chemical treatments.

- (a) Control: Shows a steady increase in bacterial count from approximately 1.5 to 9.5 \log_{10} CFU/g over 24 hours.
- (b) Heat treatment: Shows a decrease in bacterial count from approximately 1.5 to 0.5 \log_{10} CFU/g over 24 hours.
- (c) Control: Shows a steady increase in bacterial count from approximately 1.5 to 9.5 \log_{10} CFU/g over 24 hours.
- (d) Heat treatment: Shows a decrease in bacterial count from approximately 1.5 to 0.5 \log_{10} CFU/g over 24 hours.
- (e) Control: Shows a steady increase in bacterial count from approximately 1.5 to 9.5 \log_{10} CFU/g over 24 hours.
- (f) Heat treatment: Shows a decrease in bacterial count from approximately 1.5 to 0.5 \log_{10} CFU/g over 24 hours.
- (g) Control: Shows a steady increase in bacterial count from approximately 1.5 to 9.5 \log_{10} CFU/g over 24 hours.
- (h) Heat treatment: Shows a decrease in bacterial count from approximately 1.5 to 0.5 \log_{10} CFU/g over 24 hours.
- (i) Control: Shows a steady increase in bacterial count from approximately 1.5 to 9.5 \log_{10} CFU/g over 24 hours.
- (j) Heat treatment: Shows a decrease in bacterial count from approximately 1.5 to 0.5 \log_{10} CFU/g over 24 hours.
- (k) Control: Shows a steady increase in bacterial count from approximately 1.5 to 9.5 \log_{10} CFU/g over 24 hours.
- (l) Heat treatment: Shows a decrease in bacterial count from approximately 1.5 to 0.5 \log_{10} CFU/g over 24 hours.

B.G. Agee 2-2-2-7-6-2-9-4-4-2-4-3-4-3

Full name of 12th joint inventor: David J. Nix

Inventor's signature David J. Nix Date 5-1-98

Residence: Issaquah, King County, Washington

Citizenship: United States of America

Post Office Address: 25025 SE 41st Drive
Issaquah, Washington 98029

Full name of 13th joint inventor: David James Ryan

Inventor's signature _____ Date _____

Residence: Seattle, King County, Washington

Citizenship: United States of America

Post Office Address: 543 N. 71st Street
Seattle, Washington 98103

Full name of 14th joint inventor: David Stephenson

Inventor's signature _____ Date _____

Residence: San Jose, Santa Clara County, California

Citizenship: United States of America

Post Office Address: 4648 Winding Way
San Jose, California 95129

TELETYPE UNIT

B.G. Agee 2-2-2-7-6-2-9-4-4-2-4-3-4-3

Full name of 12th joint inventor: David J. Nix

Inventor's signature _____ Date _____

Residence: Issaquah, King County, Washington

Citizenship: United States of America

Post Office Address: 25025 SE 41st Drive
Issaquah, Washington 98029

Full name of 13th joint inventor: David James Ryan

Inventor's signature D. L. Z. Date 8-13-98

Residence: Seattle, King County, Washington

Citizenship: United States of America

Post Office Address: ~~543 N. 71st Street~~
~~Seattle, Washington 98103~~

4096 PIEDMONT AVE #353

OAKLAND, CA.

94610

Full name of 14th joint inventor: David Stephenson

Inventor's signature _____ Date _____

Residence: San Jose, Santa Clara County, California

Citizenship: United States of America

Post Office Address: 4648 Winding Way
San Jose, California 95129

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Jose R. de la Rosa	(Reg. No. 34810)
Karin L. Williams	(Reg. No. 36721)
Barry H. Freedman	(Reg. No. 26166)
Alfred G. Steinmetz	(Reg. No. 22971)
Stephen M. Gurey	(Reg. No. 27336)
Jeffrey M. Weinick	(Reg. No. 36304)

Please address all correspondence to Mr. S. H. Dworetsky, AT&T Corp., P. O. Box 4110, Middletown, New Jersey 07748. Telephone calls should be made to Samuel H. Dworetsky by dialing 973-360-8120.

Full name of 1st joint inventor: Brian G. Agee

Inventor's signature  Date 9/24/98

Residence: San Jose, Santa Clara County, California

Citizenship: United States of America

Post Office Address: 1596 Wawona Drive
San Jose, California 95125

Full name of 2nd joint inventor: Matthew Bromberg

Inventor's signature  Date 9/24/98

Residence: San Jose, Santa Clara County, California

Citizenship: United States of America

Post Office Address: 375 Brookmere
San Jose, California 95123

Full name of 3rd joint inventor: Derek Gerlach

Inventor's signature Derek Gerlach Date Sept 24, '98

Residence: Mountain View, Santa Clara County, California

Citizenship: United States of America

Post Office Address: 575 S. Rengstorff Ave. #82
Mountain View, California 94040

Full name of 4th joint inventor: David Gibbons

Inventor's signature _____ Date _____

Residence: Redmond, King County, Washington

Citizenship: United States of America

Post Office Address: 23006 NE 18th Ct.
Redmond, Washington 98053

Full name of 5th joint inventor: James Timothy Golden

Inventor's signature _____ Date _____

Residence: Carnation, King County, Washington

Citizenship: United States of America

Post Office Address: 9333 318th Place NE
Carnation, Washington 98014

TELEPHONE 206-225-6600

B.G. Agee 2-2-2-7-6-2-9-4-4-2-4-3-4-3

Full name of 6th joint inventor: Minnie Ho

Inventor's signature Minnie Ho Date 9/24/98

Residence: Palo Alto, Santa Clara County, California

Citizenship: United States of America

Post Office Address: 3427 Thomas Drive
Palo Alto, California 94043

Full name of 7th joint inventor: Elliott Hoole

Inventor's signature _____ Date _____

Residence: Redmond, King County, Washington

Citizenship: United States of America

Post Office Address: 22207 NE 28th Place
Redmond, Washington 98053

Full name of 8th joint inventor: Mary Jesse

Inventor's signature _____ Date _____

Residence: Issaquah, King County, Washington

Citizenship: United States of America

Post Office Address: 19301 S.E. 16th Street
Issaquah, Washington 98029

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Full name of 9th joint inventor: Robert Lee Maxwell

Inventor's signature _____ Date _____

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Citizenship: United States of America

Post Office Address: 28319 NE 147 Ct.
Duvall, Washington 98019

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Inventor's signature _____ Date _____

Residence: Lexington, Middlesex County, Massachusetts

Citizenship: United States of America

Post Office Address: 64 Potter Pond
Lexington, Massachusetts 02173

Full name of 11th joint inventor: Robert Ray Naish

Inventor's signature Robert Ray Naish Date 9/25/98

Residence: San Jose, CA, Santa Clara County, Washington

Citizenship: United States of America

Post Office Address: 2351 Newhall Street
San Jose, CA, Washington 95128

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Full name of 12th joint inventor: David J. Nix

Inventor's signature _____ Date _____

Residence: Issaquah, King County, Washington

Citizenship: United States of America

Post Office Address: 25025 SE 41st Drive
Issaquah, Washington 98029

Full name of 13th joint inventor: David James Ryan

Inventor's signature _____ Date _____

Residence: Seattle, King County, Washington

Citizenship: United States of America

Post Office Address: 543 N. 71st Street
Seattle, Washington 98103

Full name of 14th joint inventor: David Stephenson

Inventor's signature David J. Stephenson Date 9/24/98

Residence: San Jose, Santa Clara County, California

Citizenship: United States of America

Post Office Address: 4648 Winding Way
San Jose, California 95129